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**SITE SS-006 AEROSPACE GROUND EQUIPMENT FACILITY  
SOIL OPERABLE UNIT**

**PROPOSED PLAN**

**PLATTSBURGH AIR FORCE BASE  
PLATTSBURGH, NEW YORK**

**DRAFT FINAL**

**NOVEMBER 1997**

**UNITED STATES DEPARTMENT OF THE AIR FORCE  
INSTALLATION RESTORATION PROGRAM**

**Prepared By:**

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## 1.0 INTRODUCTION

This Proposed Plan recommends a remedial action for the Soil Operable Unit for the Aerospace Ground Equipment Facility (AGE), SS-006, at the Plattsburgh Air Force Base (AFB) in Plattsburgh, New York (Figure 1). The United States Air Force (USAF) is proposing this plan to address contaminated soils present as a result of site activities. Based on the findings of the various Installation Restoration Program (IRP) investigations at the AGE, Site SS-006, the USAF recommends institutional controls as the remedial alternative for the SS-006 Soil Operable Unit.

Because the FT-002 Groundwater Operable Unit encompasses site SS-006 and

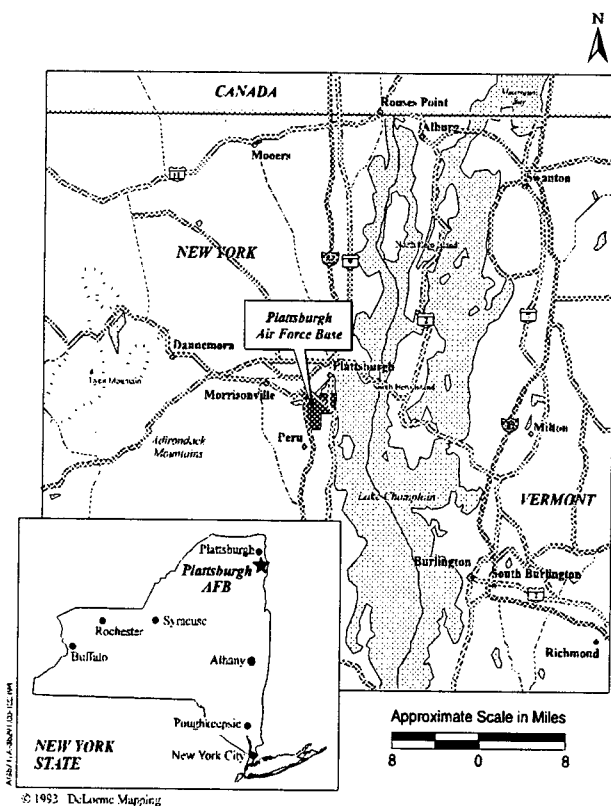


FIGURE 1: PLATTSBURGH AFB  
VICINITY LOCATION MAP

several other IRP sites in the industrial area, the site has been divided into a soil operable unit and

a groundwater operable unit. This proposed plan specifically addresses the soil operable unit for site SS-006. The groundwater operable unit for SS-006 will be addressed as part of the FT-002 Groundwater Operable Unit preferred remedial alternative.

The action plan has been evaluated in detail as part of the Department of Defense's (DOD) IRP and Base Realignment and Closure (BRAC) regulations and guidance.

The Proposed Plan is being published in accordance with Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Section 300.430(f) of the National Contingency Plan (NCP). Its purpose is to summarize the results and conclusions of previous studies and provide information for public review and comment on the remedial alternative being considered. In accordance with the Federal Facilities Agreement between the USAF, the United States Environmental Protection Agency (USEPA) and the New York State Department of Environmental Conservation (NYSDEC), the USAF will consider public input while selecting the final action plan for SS-006. Therefore, the public is encouraged to review and comment on the alternative being considered. The **Administrative Record File** contains the information upon which the selection of the response action will be based. This information is available to the public at the **Information Repository**, which is located at the Feinberg Library at the State University of New York (SUNY) Plattsburgh Campus. The repository documents are on reserve (see the Special Collections Librarian). Photocopying equipment is available.

**Administrative Record File Location:**

Feinberg Library  
SUNY at Plattsburgh  
Plattsburgh, NY 12901

**Hours:**

Monday through Thursday	8:30 AM to 11:30 PM
Friday	8:00 AM to 9:00 PM
Saturday	9:00 AM to 9:00 PM
Sunday	9:00 AM to 11:30 PM

This plan addresses contamination that may have resulted from surface spills at the AGE. A remedial investigation (RI), conducted from 1992 to 1995, identified possible migration pathways of chemical contaminants to potential receptors. In addition, the risks posed to human health and the environment were evaluated in the RI.

Based on the results of the RI, it has been determined that there are no significant threats to human or ecological health from contaminants in soil at site SS-006. The assessment of risk to human health assumed that in the future the site would be used for aviation support/industrial purposes, which is the planned land use for this area. Residential use was not considered in the assessment. Therefore, the USAF's recommended alternative includes institutional action to limit the use of the site to non-residential land use.

Although the assessment of risk to human health determined that the low level contamination detected in groundwater does not pose a potential risk to human health if used as a potable resource, several chemicals detected in groundwater exceeded regulatory standards. Additionally, there is a possibility that the groundwater plume from the FT-002 site may eventually migrate underneath site SS-006. Therefore, the USAF's recommended alternative includes institutional action to prohibit the installation of any wells for drinking water or any other purposes that may result in the use of the underlying groundwater.

The results of soil and groundwater sampling indicate that the soils at SS-006 are not a source of groundwater contamination. Therefore, groundwater monitoring is not included in USAF's recommended alternative. Rather, groundwater remedial actions, including monitoring, will be specified as necessary in the preferred alternative for the Groundwater Operable Unit for the upgradient FT-002 site.

## 2.0 SITE BACKGROUND

Plattsburgh AFB, located in Clinton County

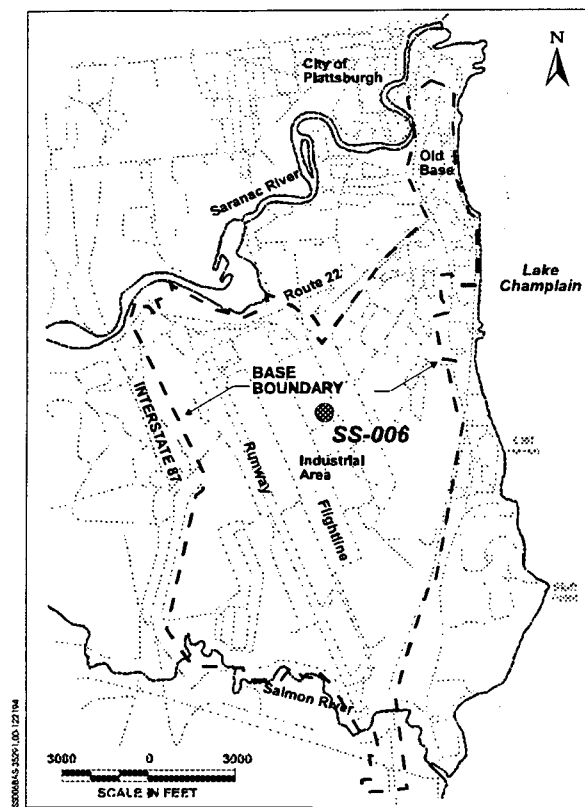


FIGURE 2: LOCATION OF SS-006

in northeastern New York State, is bordered on the north by the City of Plattsburgh, on the west by Interstate 87, on the south by the Salmon River, and on the east by Lake Champlain. It lies approximately 26 miles south of the Canadian border and 167 miles north of Albany. Plattsburgh AFB was closed on September 30, 1995 and its reuse is being administered by the Plattsburgh Airbase Redevelopment Corporation (PARC). According to land use plans presented in the Environmental Impact Statement (Tetra Tech 1995) for disposal and reuse of the base, the likely reuse at SS-006 and its surrounding area will be aviation support (industrial).

As part of the USAF's IRP and the BRAC Program, Plattsburgh AFB has initiated activities to identify, evaluate, and restore identified hazardous waste sites. The IRP at Plattsburgh AFB is being implemented according to a Federal Facilities Agreement Docket No. II-CERCLA-FFA-10201, signed between the USAF, USEPA and NYSDEC

on September 12, 1991. Plattsburgh AFB was placed on the National Priorities List (NPL) on November 21, 1989.

## **2.1 Site Description and History**

The AGE is located in Building 2815 in the east-central portion of Plattsburgh AFB, approximately 600 feet east of the flightline (Figure 2). Colorado Street borders the site to the south. The Weapons Systems Management and Maintenance Facility (Building 2801), considered part of site SS-006, lies to the east.

The AGE Building 2815 was constructed in 1980 and was utilized for the maintenance and repair of ground power carts. The power carts were utilized on the flightline to provide electrical and pneumatic power to parked aircraft. Building 2801 was constructed in 1956 and housed the Precision Measurement Equipment Laboratory (PMEL) and other flightline related offices. The PMEL calibrated tools utilized in the maintenance of the aircraft.

A drainage swale is located on the grassy median between the AGE and Building 2801. Runoff from the site enters the storm sewer system through catch basins located on the southern end of this swale. Because of the relatively low concentrations of contaminants in surface soils at site SS-006, contamination is not expected to migrate away from the site via this surface drainage pathway. Site features are shown on Figure 3.

SS-006 is the location of one of the hazardous waste accumulation points on the base. This prefabricated steel storage area, situated to the north of the AGE, accepted hazardous waste from satellite accumulation points at the AGE and at Building 2801. The accumulation point was the collection area for 140 solvents, mineral oil (non-hazardous), antifreeze, hydraulic fluid, synthetic oil, and EAK/mercury batteries. Generated hazardous waste was accumulated in 55-gallon drums and smaller containers. The non-hazardous mineral oils and hydraulic fluids were collected in two 350-

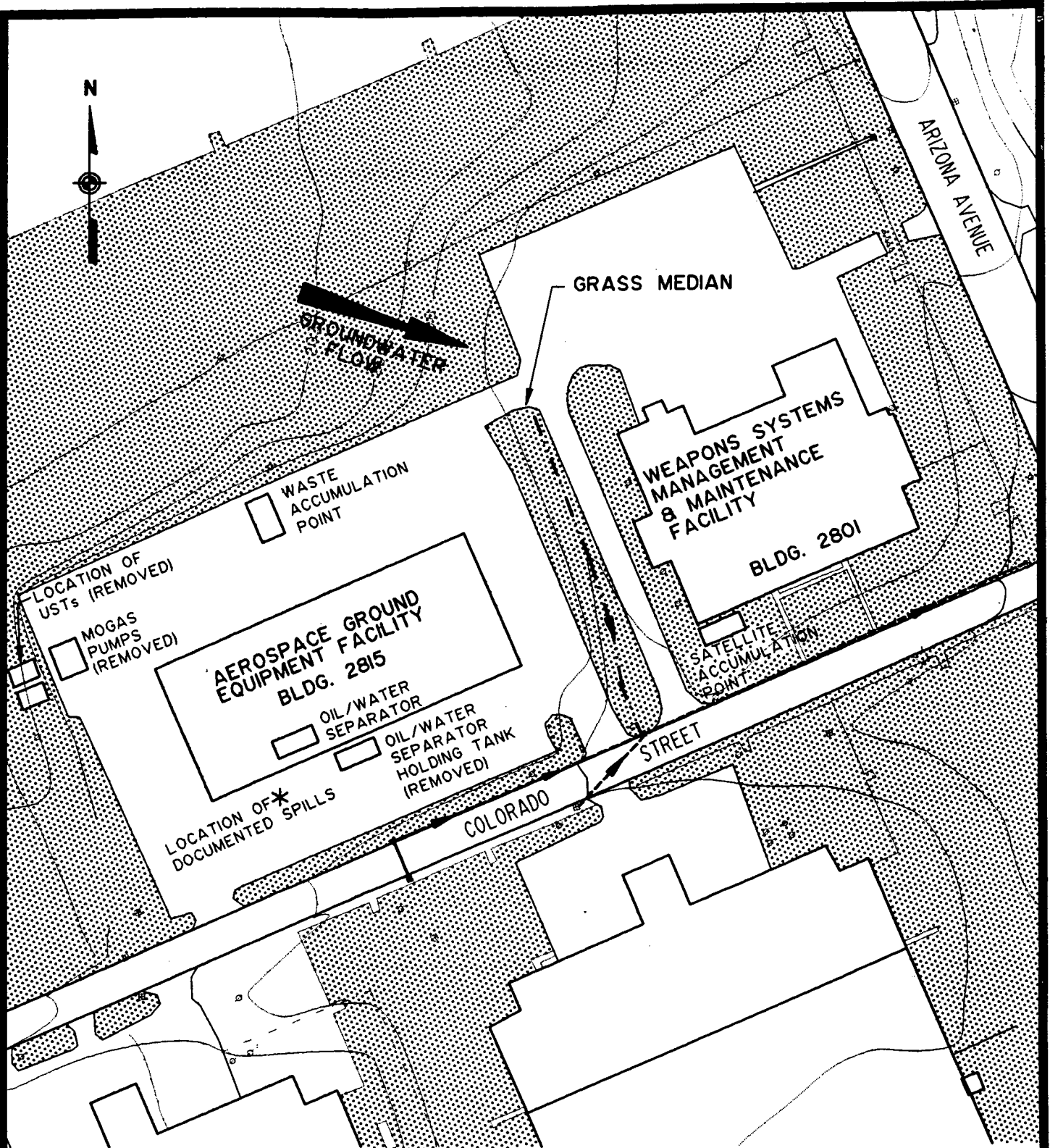
gallon polyethylene containers. In addition, two 5,000-gallon underground storage tanks, reportedly used to store diesel fuel, formerly were located west of the AGE, and a former oil/water separator was located near the southern wall of the AGE. A former 550-gallon underground holding tank is associated with this separator. Former MOGAS filling pumps also were located at the AGE. NYSDEC Region V spill response personnel have been overseeing all UST and oil/water separator removals and reviewing all closure reports.

Two approximately 30-gallon JP-4 fuel spills, occurring in 1989 and 1991 south of the AGE, are recorded on the NYSDEC Oil and Hazardous Material Spill Register. Although the spills were remediated as soon as they occurred, the presence of stained soils in the swale between the AGE and Building 2801 suggests that other spills may have occurred at SS-006.

Intrusive field investigations at SS-006 were limited to drilling down to the marine/lacustrine silt and clay unit. A unit of marine/lacustrine sand which grades to sandy silt lies above the silt and clay unit and is approximately 39 feet thick. Groundwater in this area is shallow, approximately 4 feet below ground surface, and flows east to southeast towards the Golf Course Drainage Area with eventual discharge to Lake Champlain.

## **2.2 Scope and Role of Response Action**

Chemical contaminants are present at relatively low levels in both soil and groundwater at SS-006. Based on the human health risk assessment (HRA) and ecological risk results, these chemicals do not pose a significant threat to human health or the environment. Principle threats include a potential for groundwater concentrations to increase beneath the site as a result of an upgradient source and an unevaluated potential risk that may be present for land use conditions other than the expected industrial use. These principle threats are addressed by the preferred alternative presented in this plan.



**LEGEND**

- STORM SEWER
- . - . - . DRAINAGE SWALE
- [Stippled Box] GRASSY AREAS

100 0 100  
SCALE IN FEET

## **2.3 Summary of Previous Site Investigations**

### **2.3.1 Site Inspection**

The site inspection (SI) of the AGE conducted in 1987 consisted of a records search, a soil organic vapor (SOV) survey, and the collection of three surface soil samples from stained soil locations (E. C. Jordan Co., 1989). Although significant SOV concentrations were not detected, soil samples contained elevated levels of acetone and petroleum hydrocarbons (PHCs).

### **2.3.2 Remedial Investigation**

Between October 1992 and February 1993, an RI was performed at SS-006 to characterize the magnitude and extent of groundwater and soil contamination at the site. The RI included the sampling of surface soil at nine locations and subsurface soils at three boring locations. In addition, three monitoring wells were installed and groundwater was sampled during sampling events in January and April 1993. Sampling locations (Figure 4) were concentrated near a drainage swale running between the AGE and Building 2801 in a grassy median. The analytical results from the sampled media were used to assess the current and potential future human and ecological health risks due to onsite contaminants.

## **2.4 Summary of Site Contamination**

The contamination found at SS-006 can be evaluated by comparing the results to established requirements and guidelines.

The levels of contamination from organic compounds in soil (both surface and subsurface soil) were evaluated by comparing the detected concentrations to guidance values specified in the Technical Administrative Guidance Memorandum (TAGM) #4046 entitled, *Determination of Soil Cleanup Objectives and Cleanup Levels* (NYSDEC 1994). As recommended by TAGM #4046, levels of contamination from inorganic compounds in soil were evaluated by comparing the detected

concentrations to site background levels (URS 1995) referred to as To Be Considered values (TBCs). In addition, soil data were compared to the USEPA's soil screening levels (USEPA 1996).

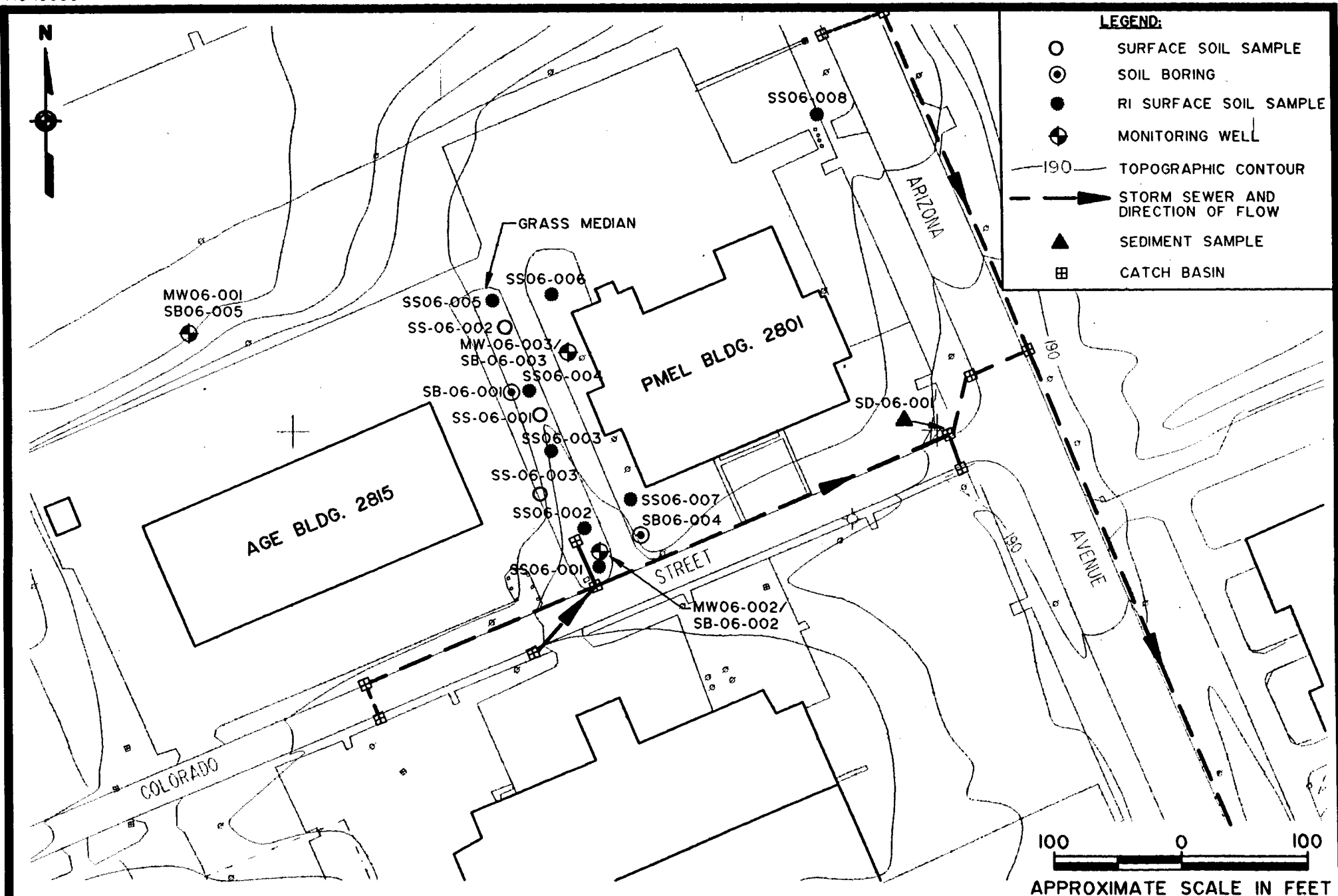
Contamination levels for groundwater were compared to the site groundwater applicable and/or relevant and appropriate requirements (ARARs), which are derived from the NYSDEC water quality standards and guidance values specified in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 (October 1993), New York State water standards (Title 6 of New York State Rules and Regulations, Part 703), USEPA drinking water standards (40 CFR 141), and site background TBCs (for metals only).

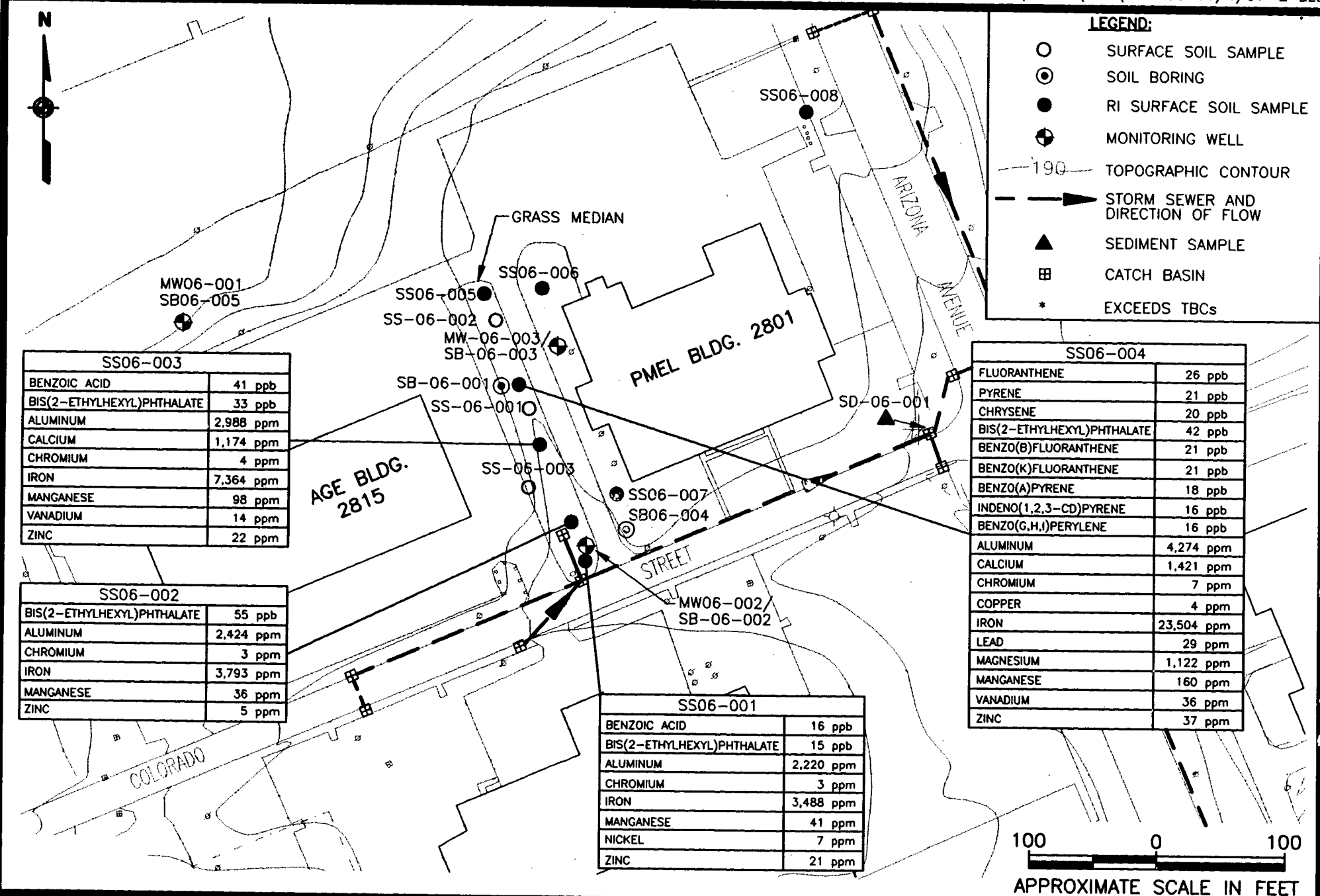
### **2.4.1 Surface Soil Contamination**

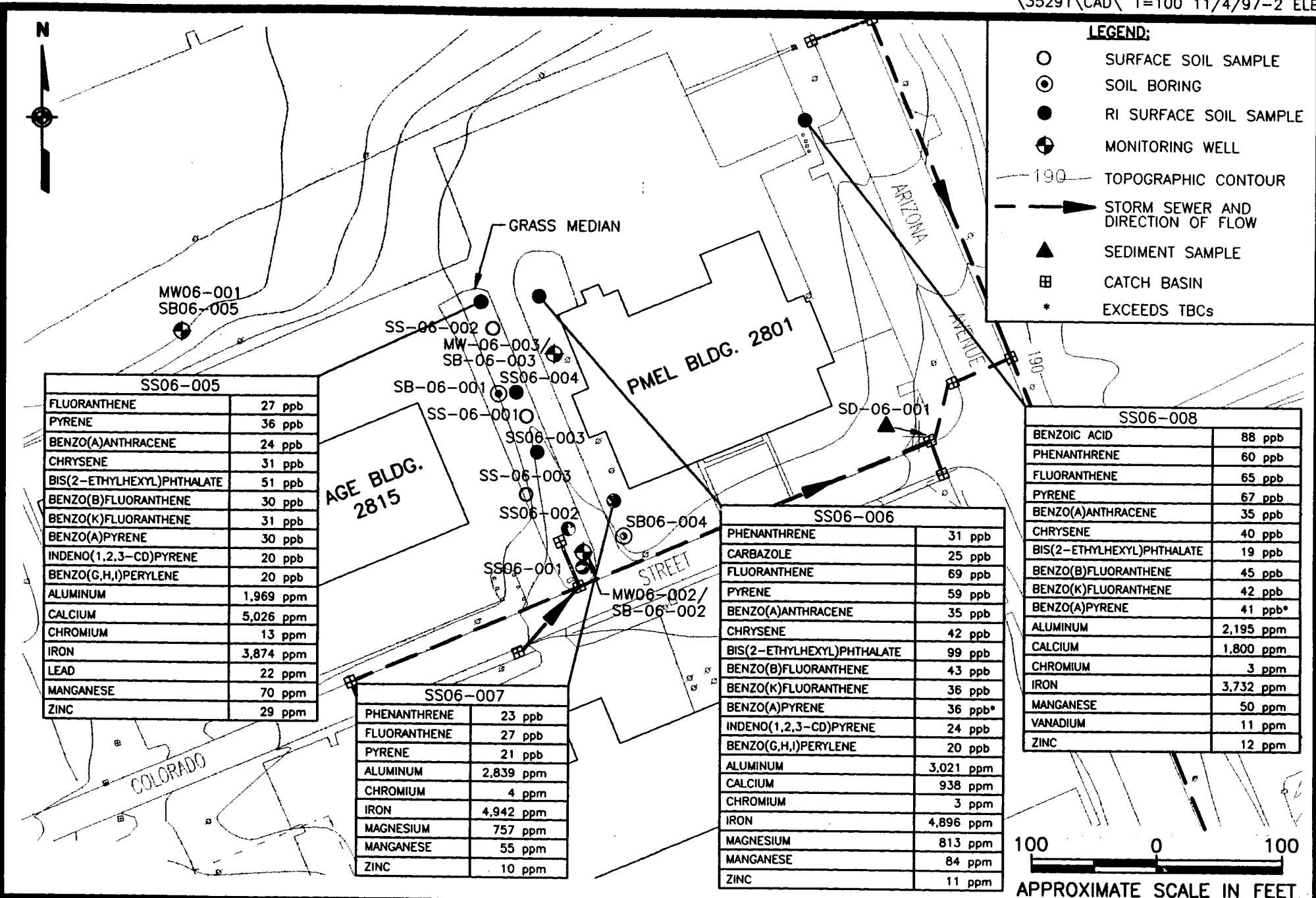
Tables 1 through 4 and Figures 5A, 5B, 6A and 6B present a summary of the levels of contamination found in the SS-006 surface soil and a comparison to the guidance thresholds described in Section 2.4. The tested parameters included volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. Analytical results revealed that none of the parameters were present above their respective guidance values.

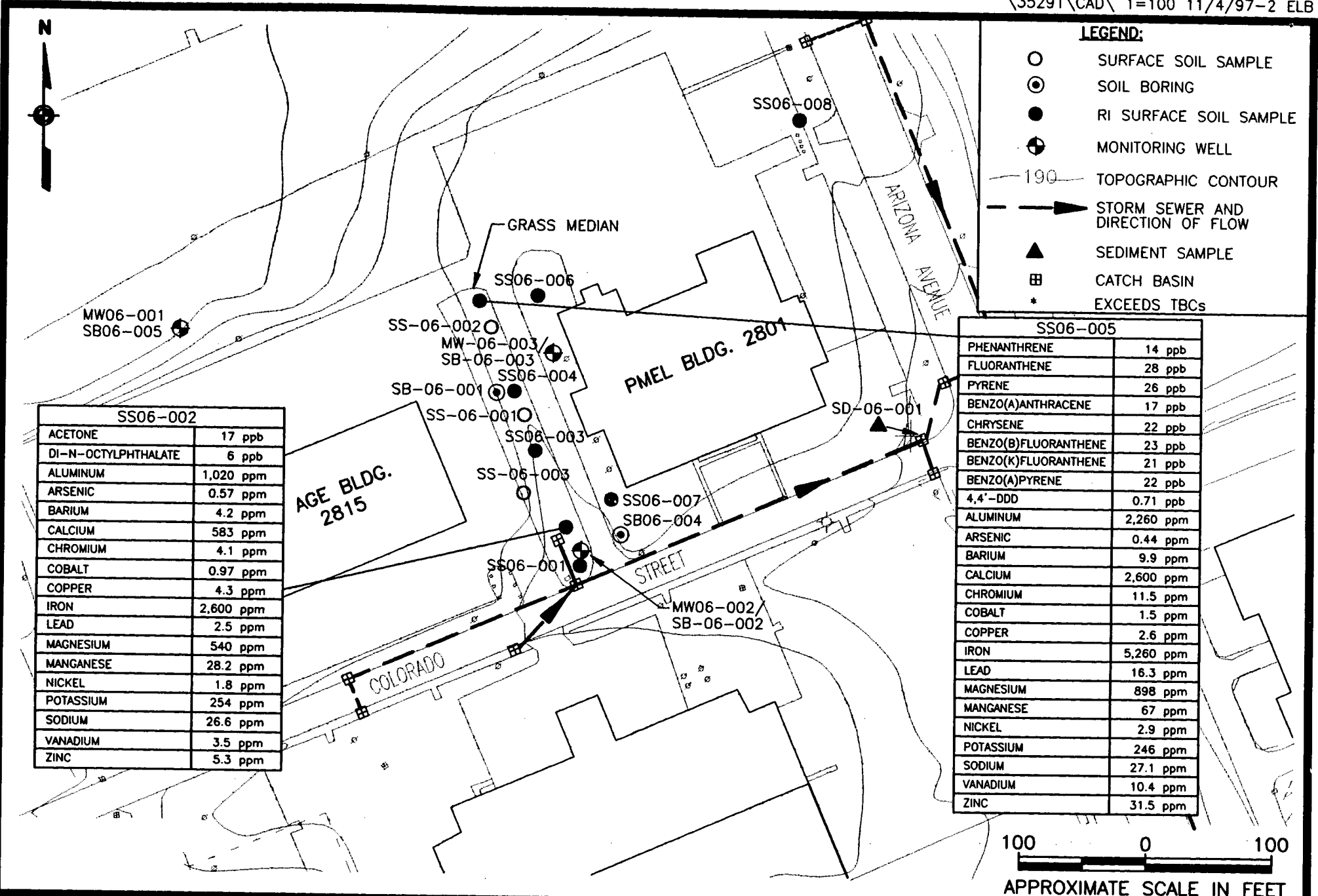
### **2.4.2 Subsurface Soil Contamination**

Subsurface soil samples were collected between 2 and 7 feet below ground surface (bgs). In general, VOCs and SVOCs were detected infrequently in the subsurface soil samples. Tables 1 through 4 present a summary of the levels of contamination found in the SS-006 subsurface soil and a comparison to the respective soil guidance values (see Section 2.4). No VOCs, SVOCs, pesticides, or PCBs were present above guidance thresholds. However, one metal (zinc) exceeded the guidance value for 1 of 5 subsurface soil samples. This sample was taken from the southern part of the grassy median between the AGE and Building 2801.









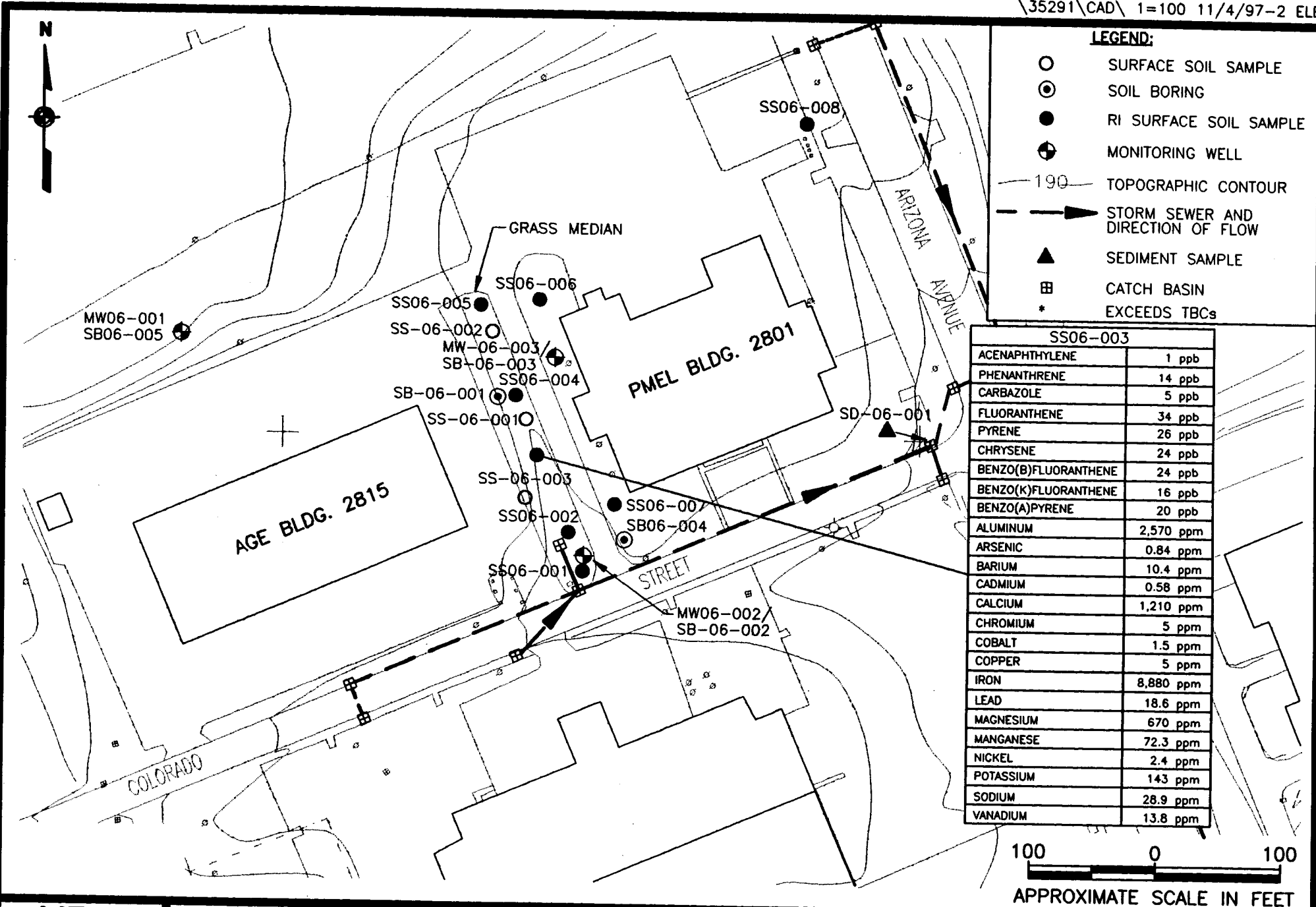


TABLE 1

**SUMMARY OF ORGANIC COMPOUNDS DETECTED AT SS-006  
LEVEL III SURFACE AND SUBSURFACE SOILS**

ANALYTE	TYPE	GUIDANCE VALUES* (µg/kg)	SURFACE SOILS				SUBSURFACE SOILS			
			FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (µg/kg)	DETECTED MAXIMUM CONCENTRATION (µg/kg)	FREQUENCY ABOVE TBCs	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (µg/kg)	DETECTED MAXIMUM CONCENTRATION (µg/kg)	FREQUENCY ABOVE TBCs
Benzoic Acid	SVOC	--	3/9	16	88	--	1/5	33	33	--
Phenanthrene	SVOC	50,000	4/9	23	60	0/4	--	--	--	--
Carbazole	SVOC	--	1/9	25	25	--	--	--	--	--
Fluoranthene	SVOC	50,000	6/9	26	69	0/6	1/5	20	20	0/1
Pyrene	SVOC	50,000	6/9	21	67	0/6	1/5	19	19	0/1
Benzo(a)anthracene	SVOC	224	4/9	24	35	0/4	--	--	--	--
Chrysene	SVOC	400	5/9	20	42	0/5	--	--	--	--
bis(2-Ethylhexyl)phthalate	SVOC	50,000	8/9	15	99	0/8	--	--	--	--
Di-n-octylphthalate	SVOC	50,000	--	--	--	--	1/5	7	7	0/1
Benzo(b)fluoranthene	SVOC	1,100	5/9	21	45	0/5	--	--	--	--
Benzo(k)fluoranthene	SVOC	1,100	5/9	16	38	0/5	--	--	--	--
Benzo(a)pyrene	SVOC	61	5/9	18	41	0/5	--	--	--	--
Indeno(1,2,3-cd)pyrene	SVOC	3,200	4/9	16	24	0/4	--	--	--	--
Benzo(g,h,i)perylene	SVOC	50,000	4/9	16	21	0/4	--	--	--	--

-- Indicates analyte not detected

\* Values from NYSDEC Soil Cleanup Objectives and Cleanup Levels, TAGM HWR-94-4046, January 1994 unless otherwise indicated.

SVOC = Semivolatile Organic Compound

 - Exceeds Guidance Value

TABLE 2

**SUMMARY OF ORGANIC COMPOUNDS DETECTED AT SS-006  
LEVEL IV SURFACE AND SUBSURFACE SOILS**

ANALYTE	TYPE	GUIDANCE VALUES* (µg/kg)	SURFACE SOILS				SUBSURFACE SOILS			
			FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (µg/kg)	DETECTED MAXIMUM CONCENTRATION (µg/kg)	FREQUENCY ABOVE TBCs	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (µg/kg)	DETECTED MAXIMUM CONCENTRATION (µg/kg)	FREQUENCY ABOVE TBCs
Acetone	VOC	200	--	--	--	--	1/1	17	17	0/1
Acenaphthylene	SVOC	41,000	1/2	1	1	0/1	--	--	--	--
Phenanthrene	SVOC	50,000	2/2	14	14	0/2	--	--	--	--
Carbazole	SVOC	--	1/2	5	5	--	--	--	--	--
Fluoranthene	SVOC	50,000	2/2	28	34	0/2	--	--	--	--
Pyrene	SVOC	50,000	2/2	26	26	0/2	--	--	--	--
Benzo(a)anthracene	SVOC	224	1/2	17	17	0/2	--	--	--	--
Chrysene	SVOC	400	2/2	22	24	0/2	--	--	--	--
Di-n-octylphthalate	SVOC	50,000	--	--	--	--	1/1	6	6	0/1
Benzo(b)fluoranthene	SVOC	1,100	2/2	23	24	0/2	--	--	--	--
Benzo(k)fluoranthene	SVOC	1,100	2/2	16	21	0/2	--	--	--	--
Benzo(a)pyrene	SVOC	61	2/2	20	22	0/2	--	--	--	--
4,4'-DDD	PEST	2,900	1/1	0.71	0.71	0/1	--	--	--	--

-- Indicates analyte not detected

\* Values from NYSDEC Soil Cleanup Objectives and Cleanup Levels, TAGM HWR-94-4046, January 1994 unless otherwise indicated.

VOC = Volatile Organic Compound

SVOC = Semivolatile Organic Compound

PEST = Pesticide

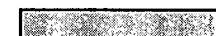
 - Exceeds Guidance Value

TABLE 3

**SUMMARY OF INORGANIC COMPOUNDS DETECTED IN SS-006  
LEVEL III SURFACE AND SUBSURFACE SOILS**

ANALYTE	TYPE	GUIDANCE VALUES* (mg/kg)	SURFACE SOILS				SUBSURFACE SOILS			
			FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (mg/kg)	DETECTED MAXIMUM CONCENTRATION (mg/kg)	FREQUENCY ABOVE TBCs	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (mg/kg)	DETECTED MAXIMUM CONCENTRATION (mg/kg)	FREQUENCY ABOVE TBCs
Aluminum	MET	8,510 †	9/9	1,969	4,274	0/9	5/5	1,572	3,437	0/5
Calcium	MET	30,200 †	6/9	736	5,026	0/6	4/5	835	10,254	0/4
Chromium	MET	19.5 †	9/9	3	13	0/9	5/5	3	6	0/5
Iron	MET	36,700 †	9/9	3,021	23,504	0/9	5/5	3,515	5,497	0/5
Lead	MET	79.4 †	2/9	22	29	0/2	1/5	18	18	0/1
Magnesium	MET	3,340 †	3/9	757	1,122	0/3	3/5	653	1,015	0/3
Manganese	MET	474 †	9/9	36	160	0/9	5/5	18	64	0/5
Nickel	MET	13	1/9	7	7	0/1	--	--	--	--
Vanadium	MET	150	3/9	11	36	0/3	2/5	10	11	0/2
Zinc	MET	63.4 †	9/9	5	37	0/9	5/5	6	213	1/5

-- Indicates analyte not detected

\* Values from NYSDEC Soil Cleanup Objectives and Cleanup Levels, TAGM HWR-94-4046, January 1994 unless otherwise indicated.

† Soil background "To Be Considered" (TBC) value from "Background Surface Soil & Groundwater Survey for the Plattsburgh Air Force Base" (URS, 1995).

MET = Metal

 - Exceeds Guidance Value

TABLE 4

**SUMMARY OF INORGANIC COMPOUNDS DETECTED IN SS-006  
LEVEL IV SURFACE AND SUBSURFACE SOILS**

ANALYTE	TYPE	GUIDANCE VALUES* (mg/kg)	SURFACE SOILS				SUBSURFACE SOILS			
			FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (mg/kg)	DETECTED MAXIMUM CONCENTRATION (mg/kg)	FREQUENCY ABOVE TBCs	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (mg/kg)	DETECTED MAXIMUM CONCENTRATION (mg/kg)	FREQUENCY ABOVE TBCs
Aluminum	MET	8,510 †	2/2	2,260	2,570	0/2	1/1	1,020	1,020	0/1
Arsenic	MET	7.5	2/2	0.44	1	0/2	1/1	0.57	0.57	0/1
Barium	MET	300	2/2	9.9	10.4	0/2	1/1	4.2	4.2	0/1
Cadmium	MET	1.3 †	1/2	0.58	0.58	0/1	--	--	--	--
Calcium	MET	30,200 †	2/2	1,210	2,600	0/2	1/1	583	583	0/1
Chromium	MET	19.5 †	2/2	5	11.5	0/2	1/1	4.1	4.1	0/1
Cobalt	MET	30	2/2	1.5	1.5	0/2	1/1	0.97	0.97	0/1
Copper	MET	41.1 †	2/2	5	2.6	0/2	1/1	4.3	4.3	0/1
Iron	MET	36,700 †	2/2	5,260	8,880	0/2	1/1	2,600	2,600	0/1
Lead	MET	79.4 †	2/2	16.3	18.6	0/2	1/1	2.5	2.5	0/1
Magnesium	MET	3,340 †	2/2	670	898	0/2	1/1	540	540	0/1
Manganese	MET	474 †	2/2	72.3	67	0/2	1/1	28.2	28.2	0/1
Nickel	MET	13	2/2	2.4	2.9	0/2	1/1	1.8	1.8	0/1
Potassium	MET	929 †	2/2	143	246	0/2	1/1	254	25	0/1
Sodium	MET	520 †	2/2	27.1	28.9	0/2	1/1	26.6	26.6	0/1
Vanadium	MET	150	2/2	10.4	13.8	0/2	1/1	3.5	3.5	0/1
Zinc	MET	63.4 †	1/1	31.5	31.5	0/1	1/1	5.3	5.3	0/1

-- Indicates analyte not detected

\* Values from NYSDEC Soil Cleanup Objectives and Cleanup Levels, TAGM HWR-94-4046, January 1994 unless otherwise indicated.

† Soil background "To Be Considered" (TBC) value from "Background Surface Soil & Groundwater Survey for the Plattsburgh Air Force Base" (URS, 1995).

MET = Metal

 - Exceeds Guidance Value

#### 2.4.3 Comparison of Soil Data to SSLs

Table 5 and 6 summarize the site-specific soil screening levels (SSLs) for the contaminants of concern at site SS-006 utilizing Level III and Level IV data, respectively. No SSL exceedances were observed for the Level III data. The arsenic concentration in soil for the Level IV data exceeded the guidance value.

#### 2.4.4 Groundwater Contamination

A summary of the levels of contamination found in the SS-006 groundwater and a comparison to the ARARs is given in Table 7 and Figure 7. No pesticides or PCBs were present in the groundwater samples. Two types of groundwater samples were collected at SS-006: hydropunch samples and monitoring well samples. The hydropunch technique is a groundwater screening technique that collects a "grab" groundwater sample and is not a measure of steady-state groundwater conditions. The method also collects water with high turbidity, generally resulting in exaggerated results due to contaminants present in the suspended solids of the water sample. The hydropunch sample results are less reliable and less reproducible than monitoring well results. Monitoring wells are sampled using a method that is a measure of the steady-state conditions of the groundwater. Turbidity is low in these samples, but unfiltered samples still may be biased (mainly for metals) due to suspended mineral solids in the sample.

For the less reliable hydropunch groundwater samples, few VOCs and SVOCs were found, but seven VOCs (chlorobenzene, chloroform, 1,2-dichloroethene, ethylbenzene, toluene, trichloroethene, and xylenes) and eight SVOCs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, chrysene, bis(2-ethylhexyl)phthalate, and phenol) exceeded ARAR thresholds. The monitoring well and hydropunch compounds that exceeded the ARARs were not detected above background concentrations in the soils at SS-006. The groundwater samples with

VOC and SVOC ARAR exceedances were taken from the southern and southeastern part of the grassy median area between the AGE and Building 2801.

For the monitoring well groundwater samples, VOCs and SVOCs were found infrequently, but one VOC (trichloroethene) exceeded its ARAR threshold for the first round of sampling. Trichloroethene was not found in any of the monitoring well samples from the second sampling event.

Three metals (aluminum, iron, and manganese) were detected in groundwater at concentrations above their respective ARAR values. However, these metals were not detected above background concentrations in the soils at SS-006.

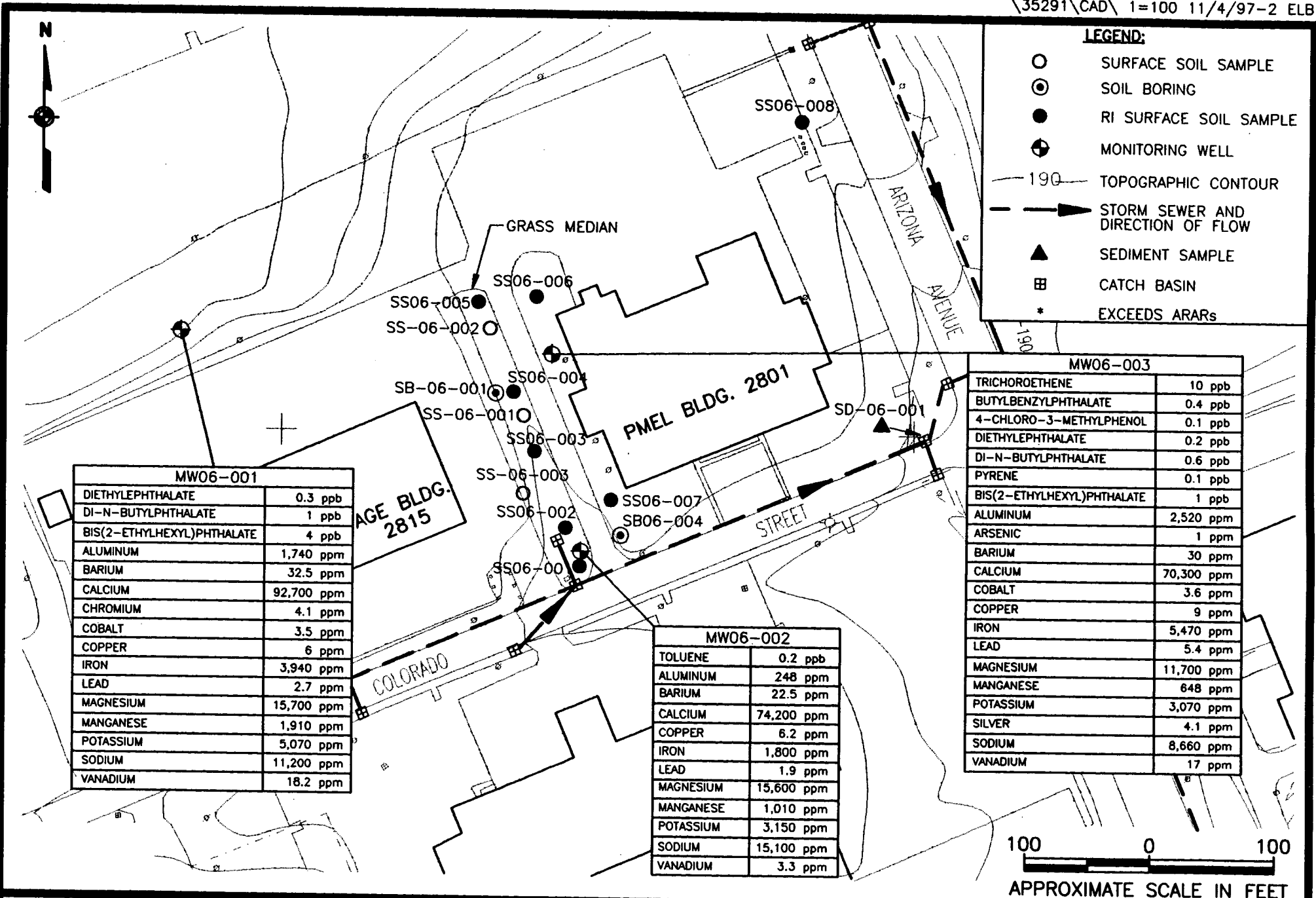
Based on the soil and groundwater sampling results, it appears that the soils at SS-006 are not a source of groundwater contamination at SS-006.

### 3.0 SUMMARY OF SITE RISKS

During the RI, a baseline HRA was conducted to estimate the current and future risks at the site if no remedial action was taken. Possible human health and ecological risks were evaluated. Due to their close proximity and potentially overlapping areas of contamination, sites SS-005 (the Non-destructive Inspection Facility Soil Operable Unit) and SS-006 were evaluated as one area. Chemicals of potential concern (CPCs) for the two sites (Table 8) were chosen based on frequency of detection, chemical-specific toxicity information, and exceedance of background levels (for inorganics only).

#### 3.1 Human Health Risk Assessment

Five steps are followed in assessing site-related human health risks: *Hazard Identification* - determines the chemicals of concern at the site based on toxicity, frequency of occurrence, and concentration. *Exposure Assessment* - estimates the



**TABLE 5**  
**SITE-SPECIFIC USEPA SOIL SCREENING LEVELS BY "SIMPLE METHOD"**  
**LEVEL III DATA**

**SUMMARY OF SOIL SCREENING LEVEL CALCULATIONS**

CHEMICAL	TYPE	SOIL SCREENING LEVELS (mg/kg)			LEVEL III SS-006 AREA SOIL SAMPLES MAXIMUM DETECTED VALUES (mg/kg)
		INGESTION	INHALATION	MIGRATION TO GROUNDWATER*	
Benzoic Acid	SVOC	312,857	NV	400	0.09
Phenanthrene	SVOC	NV	NV	NV	0.06
Carbazole	SVOC	32.0	NV	0.56	0.03
Fluoranthene	SVOC	3,129	NV	4,284	0.07
Pyrene	SVOC	2,346	NV	4,204	0.07
Benzo(a)anthracene	SVOC	0.88	NV	1.59	0.04
Chrysene	SVOC	87.7	NV	159	0.04
Di-n-octylphthalate	SVOC	1,564	9,984	9,984	0.01
bis(2-Ethylhexyl)phthalate	SVOC	45.7	30,804	3,624	0.10
Benzo(b)fluoranthene	SVOC	0.88	NV	4.92	0.05
Benzo(k)fluoranthene	SVOC	8.77	NV	49.2	0.04
Benzo(a)pyrene	SVOC	0.09	NV	8.16	0.04
Indeno(1,2,3-cd)pyrene	SVOC	0.88	NV	13.9	0.02
Benzo(g,h,i)perylene	SVOC	NV	NV	NV	0.02
Aluminum	MET	NV	NV	NV	4,274
Calcium	MET	NV	NV	NV	10,254
Chromium	MET	391	268	38.4	13.0
Iron	MET	NV	NV	NV	23,504
Lead	MET	400**	NV	NV	29.0
Magnesium	MET	NV	NV	NV	1,122
Manganese	MET	NV	NV	NV	160
Nickel	MET	1,564	13,383	130	7.00
Vanadium	MET	548	NV	6,001	36.0
Zinc	MET	23,464	NV	12,440	213

**NOTES:**

NV = No Value

\* With a DAF of 20.

  Exceeds soil screening levels.

\*\*A screening level of 400 mg/kg has been set for lead based on "Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities," (USEPA, 1994). Bold indicates that calculated values correspond to a noncancer hazard quotient of 1.

**REFERENCE:**

*USEPA Soil Screening Guidance: Technical Background Document*

**TABLE 6**  
**DEFAULT SITE-SPECIFIC USEPA SOIL SCREENING LEVELS BY "SIMPLE METHOD"**  
**LEVEL IV DATA**

## SUMMARY OF SOIL SCREENING LEVEL CALCULATIONS

CHEMICAL	TYPE	SOIL SCREENING LEVELS (mg/kg)			LEVEL IV SS-006 AREA SOIL SAMPLES MAXIMUM DETECTED VALUES (mg/kg)
		INGESTION	INHALATION	MIGRATION TO GROUNDWATER*	
Acetone	VOC	7,821	4,583	16.1	0.017
Acenaphthylene	SVOC	NV	NV	NV	0.001
Phenanthrene	SVOC	NV	NV	NV	0.014
Carbazole	SVOC	32.0	NV	0.56	0.005
Fluoranthene	SVOC	3,129	NV	4,284	0.034
Pyrene	SVOC	2,346	NV	4,204	0.026
Benzo(a)anthracene	SVOC	0.88	NV	1.59	0.017
Chrysene	SVOC	87.7	NV	159	0.024
Di-n-octylphthalate	SVOC	1,564	9,984	9,984	0.006
Benzo(b)fluoranthene	SVOC	0.88	NV	4.92	0.024
Benzo(k)fluoranthene	SVOC	8.77	NV	49.2	0.021
Benzo(a)pyrene	SVOC	0.09	NV	8.16	0.022
4,4'-DDD	PEST	2.67	NV	16.0	0.001
Aluminum	MET	NV	NV	NV	2,570
Arsenic	MET	0.43	747	29.2	1.00
Barium	MET	5,475	688,286	1,648	10.4
Cadmium	MET	78.2	1,784	7.52	0.58
Calcium	MET	NV	NV	NV	2,600
Chromium	MET	391	268	38.4	11.5
Cobalt	MET	NV	NV	NV	1.50
Copper	MET	NV	NV	NV	4.30
Iron	MET	NV	NV	NV	8,880
Lead	MET	400**	NV	NV	18.6
Magnesium	MET	NV	NV	NV	898
Manganese	MET	NV	NV	NV	67.0
Nickel	MET	1,564	13,383	130	2.90
Potassium	MET	NV	NV	NV	246
Sodium	MET	NV	NV	NV	28.9
Vanadium	MET	548	NV	6,001	13.8
Zinc	MET	23,464	NV	12,440	31.5

## NOTES:

NV = No Value

\* With a DAF of 20.

Exceeds soil screening levels.

\*\*A screening level of 400 mg/kg has been set for lead based on "Revised Interim  
 Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities," (USEPA, 1994).

Bold indicates that calculated values correspond to a noncancer hazard quotient of 1.

## REFERENCE:

USEPA Soil Screening Guidance: Technical Background Document

TABLE 7

**CHARACTER OF GROUNDWATER CONTAMINATION  
FROM LEVEL III & IV ANALYTICAL RESULTS**

ANALYTE	TYPE	ARAR VALUE (µg/L)	FREQUENCY OF DETECTION	MONITORING WELL MAXIMUM CONCENTRATION (µg/L)	HYDROPUNCH MAXIMUM CONCENTRATION (µg/L)
Acetone	VOC	50.0 *	2/26	--	4
Bromodichloromethane	VOC	50 *	1/26	--	2
Chlorobenzene	VOC	5.0 *	1/26	--	15
Chloroform	VOC	7.0 *	3/26	--	33
1,2-Dichloroethene	VOC	5.0 *	1/26	--	28
Ethylbenzene	VOC	5.0 *	1/26	--	15
Toluene	VOC	5.0 *	5/26	0.2	12
Trichloroethene	VOC	5.0 *	4/26	10	11
Xylenes	VOC	5.0 *	2/26	--	85
Acenaphthene	SVOC	20 *	1/26	--	0.3
Phenanthrene	SVOC	50 *	3/26	--	4
Anthracene	SVOC	5.0 *	2/26	--	0.8
Carbazole	SVOC	NR	1/26	--	2
Fluoranthene	SVOC	50 *	4/26	--	10
Pyrene	SVOC	50 *	4/26	0.1	12
Benzo(a)anthracene	SVOC	0.002 *	2/26	--	7
Benzo(b)fluoranthene	SVOC	0.002 *	1/26	--	5
Benzo(k)fluoranthene	SVOC	0.002 *	1/26	--	4
Benzo(a)pyrene	SVOC	0.002 *	1/26	--	5
Indeno(1,2,3-cd)pyrene	SVOC	0.002 *	1/26	--	4
Chrysene	SVOC	0.002 *	2/26	--	8
Di-n-octylphthalate	SVOC	50 *	2/26	--	0.9
Dibenz(a,h)anthracene	SVOC	50 *	1/26	--	0.9
4-Chloro-3-methylphenol	SVOC	5.0 *	1/26	0.1	--
4-Nitroaniline	SVOC	5.0 *	1/26	--	2
4-Methylphenol	SVOC	50 *	3/26	--	3
bis(2-Chloroethoxy)methane	SVOC	NR	2/26	--	6
Naphthalene	SVOC	10 *	1/26	--	0.7
2,4-Dinitrotoluene	SVOC	5.0 *	1/26	--	1.0
Phenol	SVOC	1.0 *	2/26	--	2
Benzoic Acid	SVOC	NR	5/26	--	2
2-Methylnaphthalene	SVOC	50 *	2/26	--	0.7
Benzo(g,h,i)perylene	SVOC	5.0 *	1/26	--	4
Butylbenzylphthalate	SVOC	50 *	2/26	0.4	6
Diethylphthalate	SVOC	50 *	4/26	0.3	1.0
Di-n-butylphthalate	SVOC	50 *	10/26	1	0.8
bis(2-Ethylhexyl)phthalate	SVOC	50 *	17/26	4	86

\* - NYSDEC Water Quality Standards and Guidance Values, TOGS 1.1.1, October 1993

TABLE 7 (cont'd)

**CHARACTER OF GROUNDWATER CONTAMINATION  
FROM LEVEL III & IV ANALYTICAL RESULTS**

ANALYTE	TYPE	ARAR VALUE (µg/L)	FREQUENCY OF DETECTION	MONITORING WELL MAXIMUM CONCENTRATION (µg/L)
Aluminum	METAL	50 to 200***	6/6	2,520
Arsenic	METAL	25 *	1/6	1
Barium	METAL	1,000 *	6/6	42.7
Calcium	METAL	NR	6/6	92,700
Chromium	METAL	50 *	1/6	4.1
Cobalt	METAL	NR	3/6	3.6
Copper	METAL	200 *	6/6	9
Iron	METAL	300 *	6/6	5,470
Lead	METAL	15 **	5/6	5.4
Magnesium	METAL	35,000 *	6/6	15,700
Manganese	METAL	50 ***	6/6	1,910
Potassium	METAL	NR	6/6	5,070
Silver	METAL	50 *	1/6	4
Sodium	METAL	20,000 *	6/6	15,100
Vanadium	METAL	NR	4/6	18.2

\* - NYSDEC Water Quality Standards and Guidance Values, TOGS 1.1.1, October 1993

\*\* - USEPA Drinking Water Standards 40 CFR 141

\*\*\* - USEPA Secondary Maximum Contaminant Levels 40 CFR 143

 - Exceeds Guidance Value

NR = Not Regulated

VOC = Volatile Organic Compound

SVOC = Semivolatile Organic Compound

-- Indicates analyte not detected

**TABLE 8**  
**CHEMICALS OF POTENTIAL CONCERN FOR SS-005 AND SS-006**  
**GROUNDWATER**

ANALYTE	TYPE	GROUNDWATER		
		FREQUENCY OF DETECTION	ARAR VALUE (µg/L)	MAXIMUM CONCENTRATION DETECTED (µg/L)
Benzene	VOC	2/12	0.7	0.2*
Bromodichloromethane	VOC	1/26**	50	2.0
Bromoform	VOC	1/12	50	1.0*
Carbon tetrachloride	VOC	1/12	5.0	0.1*
Styrene	VOC	1/12	5.0	0.4*
Trichloroethene	VOC	4/26**	5.0	10
Toluene	VOC	5/26**	5.0	0.1
bis(2-Ethylhexyl)phthalate	SVOC	17/26**	50	4.0
Butylbenzylphthalate	SVOC	2/26**	50	0.4
Carbazole	SVOC	1/26**	NR	0.1
4-Chloro-3-methylphenol	SVOC	1/26**	5.0	0.1
Diethylphthalate	SVOC	4/26**	50	0.3
Di-n-butylphthalate	SVOC	10/26**	50	1.0
Total PAHs	SVOC	2/26**	NR	0.3
Arsenic	METAL	5/12***	25	1.0
Silver	METAL	1/6	50	4.0

VOC = Volatile Organic Compound

SVOC = Semivolatile Organic Compound

PAH = Polyaromatic hydrocarbon

\* Not Detected in SS006 samples

\*\* Level III & IV samples

\*\*\* Arsenic was only detected in 1 of 6 groundwater samples for SS006

NR - Not Regulated

magnitude of actual and/or potential human exposures, and the pathways (e.g., dermal contact with soil) by which humans potentially are exposed. *Toxicity Assessment* - determines adverse health effects associated with chemical exposures and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). *Risk Characterization* - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks. *Uncertainty Analysis* - qualifies the quantitative results of the risk assessment based upon the uncertainty associated with the assumptions made in the analysis. Generally, assumptions made in the assessment process are conservative and yield a reasonable overestimation, rather than an underestimation of risk.

The human HRA follows federal guidelines to estimate the potential carcinogenic (i.e., cancer-causing) and adverse noncarcinogenic health effects due to potential exposure to site contaminants of concern from assumed exposure scenarios and pathways. These guidelines consider an excess upper bound lifetime cancer risk to an individual to be acceptable if it is calculated to be less than one-in-one million, and risks in the range of one-in-ten thousand to one-in-one million are evaluated on a case by case basis. The guidance also specifies a maximum health hazard index (which reflects noncarcinogenic effects for a human receptor) less than or equal to 1.0. The Hazard Index is a representation of risk based on a quotient or ratio of chronic daily intake to a reference (safe) dose. A hazard index (HI) greater than 1.0 indicates a potential of adverse noncarcinogenic health effects.

Two human exposure scenarios were evaluated as part of the human HRA for site SS-006 and are summarized in Table 9.

A) **Current Scenario** - This scenario assumes that civilian personnel conducting landscape work may come in contact with contaminated soils. Potential routes of exposure for this scenario include incidental ingestion of and dermal contact with surface soil. Because there is no current use of the

groundwater at SS-006, there is little likelihood of human contact with the contaminants in this medium under this scenario.

B) **Future Scenario** - This scenario accounts for two potential future activities at the SS-006 site:

(1) *Future utility, maintenance or construction activities* may result in disrupted soil (e.g., excavation) which potentially could expose utility/construction workers to site contaminants in surface and subsurface soil. This exposure would be similar to that estimated for civilian landscape workers in the current exposure scenario (above) with the additional potential to ingest groundwater.

(2) *Future normal industrial worker site activities* may result in disrupted soil (e.g., dust) which potentially could expose site workers to surface soil. In addition, dermal contact with groundwater was evaluated for this scenario.

(3) *Future residential development* may occur, where adults and children would live in residences located on SS-006. The exposure routes for residents in this future scenario is based on the ingestion of groundwater and the inhalation of vapors and dermal contact from potable groundwater during showering. This assumption is very conservative given that the site has a readily-available public water supply and any future potential for residences at SS-006 likely would use the public supply of water over potable well water. In addition, given that the site is slated for industrial use (PARC 1995) its development for residential use is improbable.

For current land use, the total cancer risk for the civilian landscape worker was estimated as  $1 \times 10^{-5}$ , which is within the potentially acceptable risk range established by current USEPA guidelines. For the hypothetical future land use, the total estimated cancer risks to a site/construction worker, an adult resident, and a child resident, were  $3 \times 10^{-5}$ ,  $9 \times 10^{-5}$ , and  $5 \times 10^{-5}$ , respectively. These results are within the potentially acceptable USEPA specified range.

TABLE 9

**SITES SS-005 & SS-006 REMEDIAL INVESTIGATION  
CANCER RISKS AND HAZARD INDICES FOR MULTIPLE HUMAN PATHWAYS**

## HUMAN HEALTH RISK ASSESSMENT

EXPOSURE PATHWAY	CURRENT USE		FUTURE USE							
	CIVILIAN LANDSCAPE WORKER		CONSTRUCTION WORKER (CW)/ SITE WORKER (SW)				RESIDENT			
	HAZARD INDEX	CANCER RISK	HAZARD INDEX		CANCER RISK		HAZARD INDEX		CANCER RISK	
			CW	SW	CW	SW	ADULT	CHILD	ADULT	CHILD
Ingestion of Surface Soil	0.06	1.0E-05	0.06 *	0.00	4.0E-07 *	1.0E-07	—	—	—	—
Dermal Contact with Surface Soil	0.01	2.0E-07	0.00 *	0.00	6.0E-10 *	1.0E-08	—	—	—	—
Inhalation of Respirable Particulates from Surface Soils			0.01 *	—	3.0E-07 *	—	—	—	—	—
Ingestion of Groundwater	—	—	—	0.20	—	3.0E-05	0.70	2.00	9.0E-05	5.0E-05
Dermal Contact with Groundwater	—	—	—	0.00	—	2.0E-08	0.01	0.01	3.0E-07	1.0E-07
Inhalation of Chemicals in Vapors While Showering	—	—	—	—	—	—	0.00	0.00	7.0E-14	6.0E-14
<b>TOTAL EXPOSURE HAZARD INDEX</b>	<b>0.07</b>	<b>—</b>	<b>0.07 *</b>	<b>0.20</b>	<b>—</b>	<b>—</b>	<b>0.71</b>	<b>2.01</b>	<b>—</b>	<b>—</b>
<b>TOTAL EXPOSURE CANCER RISK</b>	<b>—</b>	<b>1.0E-05</b>	<b>—</b>	<b>—</b>	<b>7.0E-07 *</b>	<b>3.0E-05</b>	<b>—</b>	<b>—</b>	<b>9.0E-05</b>	<b>5.0E-05</b>

## NOTES:

— Pathway not evaluated in the HRA

1E-05 = 0.00001 or one potential cancer in 100,000.

Values indicated as "0.00" are less than 0.005.

\*Evaluation included subsurface soil exposure.

For the current land use, the total HI for the civilian landscape worker was estimated to be 0.1. For hypothetical future land use, the total HIs for the utility/construction worker, site worker, resident adult, and resident child were 0.07, 0.2, 0.7, and 2.0, respectively for SS-006. The future resident child HI is the only estimated index above the 1.0 acceptable risk range for potential noncarcinogenic health effects.

The major impact to the HI for the future resident child case was the ingestion of small quantities of arsenic from drinking potable groundwater. The arsenic and the other metals found in the groundwater at SS-006 were analyzed using unfiltered samples, which typically elevates the levels of metals reported due to the inclusion of suspended minerals with the groundwater. In addition, all the arsenic concentrations in the groundwater at SS-006 were more than 95 percent below the NYSDEC water quality criteria threshold of 25 µg/L (NYSDEC 1993) and the USEPA arsenic primary drinking water standard threshold of 50 µg/L (40 CFR 141). These water standards were set by the regulatory agencies to protect the public from arsenic's potential adverse noncarcinogenic health effect

As stated above, the human HRA typically overestimates the hazards associated with potential exposure to contaminants and the scenario for the future resident child case is unlikely due to the availability of a public water supply for the SS-006 site. In addition, it is unlikely that SS-006 will be developed for residential use. Therefore, exposure to the low levels of arsenic contamination in the groundwater for a potential future resident child is most likely negligible and poses very little risk.

### 3.2 Ecological Risk Assessment

A four-step process is utilized for assessing site-related ecological risks for a reasonable maximum exposure scenario: *Problem Formulation* - a qualitative evaluation of contaminant release, migration, and fate; identification of CPCs, ecological receptors, exposure pathways, and known

ecological effects of the contaminants; and selection of endpoints for further study. *Exposure Assessment* - a quantitative evaluation of contaminant release, migration, and fate; characterization of exposure pathways and receptors; and measurement of the estimation of exposure point concentration. *Ecological Effects Assessment* - literature reviews, field studies, and toxicity tests, linking contaminant concentrations to effects on ecological receptors. *Risk Characterization* - a measurement of estimation of current adverse effects.

Sites SS-005, SS-006, and SS-017 (the Building 2774 Operable Unit) were combined for the ecological assessment due to their proximity to each other and their limited areal extent. A screening level ecological risk assessment was performed to assess the potential impact of exposure to contaminated surface soil on terrestrial organisms. The species evaluated for the site were the white-footed mouse, short-tailed shrew, and American robin. In addition, the terrestrial vegetation at the SS-006 site was evaluated.

Due to the large extent of paving, buildings, and structures at SS-006, a very limited habitat exists on site (less than ¼ acre). The balance of the site is an open area of mowed grass which is unsuitable for mice, shrews, and robins to nest. The HRA concluded that it is unlikely that many species would feed exclusively in or inhabit the SS-006 site. The results of the assessment are expressed as an HI. An HI of less than or equal to 1.0 indicates no estimated health effects on ecological receptors.

Ecological risk calculations for an assumed scenario of resident receptors indicated that contaminants in the surface soil at the three sites present a possible risk to wildlife. Again, this scenario estimated potential adverse health risks based on the receptors nesting and feeding exclusively at SS-006, which is unrealistic. HQs for arsenic, lead, and barium were calculated to be between 1 and 17. HQs for other chemicals were calculated to be less than 1.0. The scenario used for this ecological risk assessment was unlikely

including the assumption that nesting of the birds was possible without proper terrestrial vegetation at SS-006 and that feeding would occur only within SS-006, when range areas for the birds are far in excess of the available feeding areas. The ecological risk assessment concludes that, based on the limited habitat available at SS-006 and the unlikeliness that wildlife would utilize these areas to any extent, wildlife exposure to the CPCs is most likely negligible and poses very little risk.

#### **4.0 DESCRIPTION OF THE PREFERRED ALTERNATIVE**

The USAF has selected institutional controls as the preferred alternative for the SS-006 soil operable unit. The institutional controls will consist of deed restrictions prohibiting residential development on the site and restrictions of groundwater use. There will also be five-year reviews of the selected remedy in accordance with the Section 121(c) of CERCLA.

##### **4.1 Basis**

The results of the RI indicate that there are no significant human health risks associated with soil at SS-006 given its current use and expected use as an industrial/aviation support facility. Risk posed by contaminated soil was not evaluated for a potential future residential use of the site. Low level contamination detected in groundwater does not pose a significant potential risk to human health if used as a potable resource in the future. Soils at SS-006 are not a source of the observed groundwater contamination.

The SS-005 site is located downgradient from IRP site FT-002, a significant source of VOCs in groundwater. It is possible that contaminants in groundwater from the FT-002 site may, in time, impact groundwater in the vicinity of SS-005. Migration of contaminants from FT-002 will be monitored as part of FT-002 Operable Unit 2.

Ecological risks are possible to terrestrial wildlife from chemicals detected in surface soils.

However, due to the current land use of the area and because the area of exposed soil is limited (less than ¼ acre), wildlife exposure to contaminants in the soil is insignificant.

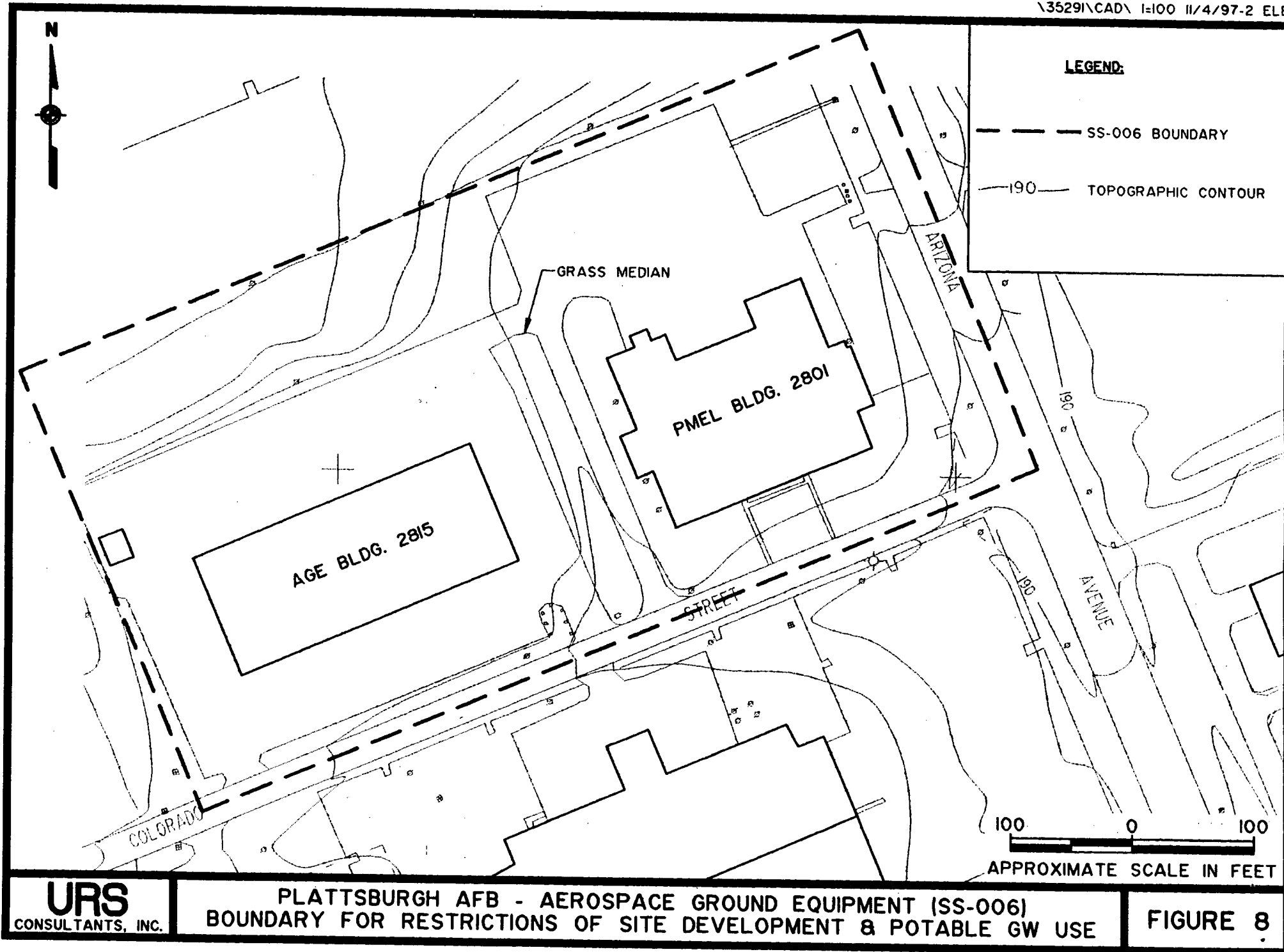
#### **4.2 Identification of Alternative**

Because no evaluation of risk posed by site soils was conducted given a residential development scenario and because contaminants, although not attributable to the site, were detected in groundwater beneath the site at concentrations exceeding regulatory standards, the following actions are included in the preferred alternative:

- Restrictions will be imposed to limit development of the site to facilities that support an industrial, non-residential use, without prior consent of the New York State Department of Environmental Conservation. The Department may require that additional evaluation of human health risk be performed prior to allowing a site development other than industrial.
- Prohibition of the installation of any wells for drinking water or any other purposes which could result in the use of the underlying groundwater without prior approval of the New York State Department of Environmental Conservation.
- An evaluation of the above institutional controls, which will be implemented through lease and deed agreements, will be undertaken every five years.

The area that will be subject to institutional controls is shown on Figure 8.

Groundwater remedial actions, including monitoring, will be specified as required in the preferred alternative for the Groundwater Operable Unit for the upgradient FT-002 site. The area covered by the FT-002 Groundwater Operable Unit encompasses site SS-006.



## **5.0 COMMUNITY PARTICIPATION**

The following paragraphs explain how the public can become involved in the selection process after reviewing the Proposed Plan.

### **5.1 Public Comment Period**

Plattsburgh AFB will hold a 30-day public comment period from November 11 to December 18, 1997 to solicit public input. During this period, the public is invited to review the Proposed Plan, the Attachment I Sites Remedial Investigation (SS-006 is one of the Attachment I sites addressed by the FFA) and to comment on the preferred alternative being considered. These documents make up the Administrative Record for the SS-006 site. The full-length reports are available at the Information Repository located at the Feinberg Library (see page one of this Proposed Plan for the address and available hours).

### **5.2 Public Informational Meeting and Public Hearing**

Plattsburgh AFB will host a public meeting on or about December 11, 1997 at the Old Court House, Second Floor Meeting Room, 133 Margaret Street. The date and time of the meeting will be published in the Press Republican. The meeting will be divided into two segments. In the first segment, data gathered at the site, the preferred alternative, and the decision-making process will be discussed. The public is encouraged to attend this presentation and to ask questions. Immediately after the informational presentation, Plattsburgh AFB will hold a formal Public Hearing to accept comments about the remedial alternative being considered for the SS-006 site. The hearing will provide the opportunity for people to comment officially on the plan. Public comments will be recorded and transcribed, and a copy of the transcript will be added to the Administrative Record and Information Repository.

### **5.3 Written Comments**

If you would like to submit written comments about Plattsburgh AFB's preferred alternative or other issues relevant to the site remediation, please deliver your comments to Plattsburgh AFB's IRP Coordinator at the Public Hearing or mail your written comments (to be received no later than the week of December 15, 1997) to:

Mr. Michael D. Sorel  
BRAC Environmental Coordinator  
AFBCA/DA - Plattsburgh  
426 U.S. Oval  
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### **5.4 Plattsburgh AFB's Review of Public Comment**

Public comments are part of the process of reaching a final decision on an appropriate remedial alternative for SS-006. Plattsburgh AFB's final choice of a remedial alternative will be issued in a Record of Decision (ROD) for the site and will be submitted to the USEPA for review, approval, and signature and to the NYSDEC for review and concurrence. A Responsiveness Summary of public comments and Plattsburgh AFB's responses to these comments will accompany the ROD. Once the ROD is signed, it becomes part of the Administrative Record.

### **5.5 Additional Public Information**

Because the Proposed Plan only summarizes the field investigation and remedial action for SS-006, the public is encouraged to consult the Administrative Record which contains the complete RI and other supporting reports.

## REFERENCES

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## GLOSSARY

*Administrative Record:* A file established and maintained in compliance with Section 113(K) of CERCLA, consisting of information upon which the lead agency bases its final decisions on the selection of remedial method(s) for a Superfund site. The Administrative Record is available to the public.

*Applicable or Relevant and Appropriate Requirements (ARARs):* ARARs include any state or federal statute or regulation that pertains to protection of public health and the environment in addressing certain site conditions or using a particular remedial technology at a Superfund site. A state law to preserve wetland areas is an example of an ARAR. USEPA must consider whether a remedial alternative meets ARARs as part of the process for selecting a remedial alternative for a Superfund site.

*Carcinogenic:* Exposure to a particular level of a potential carcinogen may produce cancer.

*Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):* A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act requires federal agencies to investigate and remediate abandoned or uncontrolled hazardous waste sites.

*Ecological Receptors:* Fauna or flora in a given area that could be affected by contaminants in surface soils, surface water, and/or sediment.

*Groundwater:* Water found beneath the earth's surface that fills pores within materials such as sand, soil, gravel, and cracks in bedrock, and often serves as a source of drinking water.

*Hazard Index (HI):* A quantified expression of potentially adverse, noncarcinogenic health effects on human or ecological receptors.

*Inorganic Compounds:* A class of naturally occurring compounds that includes metals, cyanide, nitrates, sulfates, chlorides, carbonate, bicarbonate, and other oxide complexes.

*Installation Restoration Program (IRP):* The U.S. Air Force subcomponent of the Defense Environment Restoration Program (DERP) that specifically deals with investigating and remediating sites associated with suspected releases of toxic and hazardous materials from past activities. The DERP was established to clean up hazardous waste disposal and spill sites at Department of Defense facilities nationwide.

*Monitoring:* Ongoing collection of information about the environment that helps gauge the effectiveness of a cleanup action. Information gathering may include groundwater well sampling, surface water sampling, soil sampling, air sampling, and physical inspections.

*National Oil and Hazardous Substances Pollution Contingency Plan (NCP):* The NCP provides the organization structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants. The NCP is required under CERCLA and the Clean Water Act, and the USEPA has been delegated the responsibility for preparing and implementing the NCP. The NCP is applicable to response actions taken pursuant to the authorities under CERCLA and the Clean Water Act.

*National Priorities List:* The USEPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program.

*Natural Attenuation:* Processes by which contaminant levels are reduced in nature. Contaminants in soil or groundwater are reduced by aerobic (oxygen-using) bacteria, other biological activity, volatilization, and dilution/dispersion.

*Noncarcinogenic:* Exposure to a particular level of a potential noncarcinogen may produce adverse health effects.

*Organic Compounds:* Any chemical compounds built on the carbon atom, i.e., methane, propane, phenol, etc.

*Polynuclear Aromatic Hydrocarbons (PAHs):* A chemical compound consisting of carbon and hydrogen and containing two or more fused benzene rings. They are a group of highly reactive organic compounds found in motor oil and common components of creosotes. Many are carcinogenic.

*Petroleum Hydrocarbons (PHCs):* The mixture of hydrocarbons and small amounts of other substances that make up petroleum. Hydrocarbons are chemical compounds consisting of carbon and hydrogen, and are found in gasoline, naphtha, and other products produced by refining processes.

*Polychlorinated Biphenyl (PCB):* A compound that formerly was used as a lubricant and transformer coolant.

*Proposed Plan:* A public document that solicits public input on a recommended remedial alternative to be used at a National Priorities List (NPL) site. The Proposed Plan is based on information and technical analysis generated during the RI/FS. The recommended remedial action could be modified or changed based on public comments and community concerns.

*Record of Decision (ROD):* A public document that explains the remedial alternative to be used at a National Priorities List (NPL) site. The ROD is based on information and technical analysis generated during the Remedial Investigation, and on consideration of the public comments and community concerns received on the Proposed Plan. The ROD includes a Responsiveness Summary of public comments.

*Remedial Action:* A long-term action that stops or substantially reduces a release or threat of a release of hazardous substances that is serious but not an immediate threat to human health or the environment.

*Remedial Alternatives:* Options evaluated to address the source and/or migration of contaminants to meet health-based or ecology-based remediation goals.

*Remedial Investigation (RI):* The Remedial Investigation determines the nature, extent, and composition of contamination at a hazardous waste site and directs the types of remedial options that are developed in the Feasibility Study.

*Semivolatile Organic Compound (SVOCs):* Organic constituents which are generally insoluble in water and are not readily transported in groundwater.

*Source:* Area at a hazardous waste site from which contamination originates.

*Superfund:* The trust fund, created by CERCLA out of special taxes, used to investigate and clean up abandoned or uncontrolled hazardous waste sites. Out of this fund the USEPA either: (1) pays for site remediation when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work or (2)

takes legal action to force parties responsible for site contamination to clean up the site or pay back the federal government for the cost of the remediation. Federal facilities are not eligible for Superfund monies.

*Technical and Administrative Guidance Memorandum (TAGM)*: TAGM #4046 issued by NYSDEC Bureau of Hazardous Waste Remediation establishes chemical-specific soil cleanup objectives in the vadose zone. The document is entitled *Determination of Soil Cleanup Objectives and Cleanup Levels* (NYSDEC 1994).

*Terrestrial Wildlife*: Animals living on land (e.g., reptiles, small mammals, small birds, predatory mammals, predatory birds).

*To Be Considered (TBCs)*: Federal and state policies, advisories, and other non-promulgated health and environment criteria, including numerical guidance values, that are not legally binding. TBCs are used for the protection of public health and the environment if no specific ARARs for a chemical or other site conditions exist, or if ARARs are not deemed sufficiently protective.

*Volatile Organic Compounds (VOCs)*: Organic compounds that have a high propensity to volatilize or to change from a liquid to a gas form.